/140 cont./

241 There is yet another factor which plays a role in the origin
134 of the grounds-kapoeweri. This is the use of fire in clearing the
137 ground. The burning of the cut forest is done at the expense of the humus on and in the soil. The fertilization with ashes that one obtains by it only partially covers this loss. Furthermore, under the influence of the fire there are great disturbances in the balance of the microflora and fauna of the soil, hindering the conversion of organic materials into inorganic compounds. Sun and rain bring changes in the structure of the scorched earth, which forms a cement-like crust and becomes sealed. Also the growing of cultivated crops, especially cassave, draws many mineral components from the soil.

13 It is clear that the soil needs time to recover after this disturbance of the balance. This period of time is estimated at 25-30 years. The leaf-cutting ants play a part in this; they again enrich the soil with humus by bringing great quantities of leaves into their ground nests. In addition, they ventilate the soil by digging numerous nest corridors. In this manner the ants contribute
● [242] to the recovery. It is well-known, moreover, that the soil on old leaf-cutting ant nests is fertile; one likes to plant bananas on it. If we assume with Stahel that in this kapoeweri six ant nests per hectare are found, then these nests together would only have a maximum surface of one-tenth of it. This would never be able to hinder the full growth of the forest.

136 That the leaf cutting ants occupy the secondary growth, or at
137 least are present there in greater numbers than is normally the case
241 in the forest, may be a consequence of the laying out of new grounds within their domain. Because of the lack of land, the Bush Negroes are constantly trying to lay out grounds again in this forest. The ants, moreover can maintain themselves because there are various forest trees that supply the ants with sufficient leaf material.

13 Thus, because of both the decreased capacity of the soil and
311 the presence of the leaf-cutting ants, the ant-kapoeweri forms a terrain that has become unusable for present-day primitive Bush Negro agriculture./141/ And from the standpoint of forestry too the ant-kapoeweri is worthless.

/1 cont./

132 The climate is relatively temperate and easy for the European
[513] to stand. In the forest the thermometer does not rise to more than 28° during the hot hours, to go back down to 20° at the end of the night: everyone sleeps with a blanket, Refugee Blacks and Creoles as well as Europeans. Humidity is very great during nearly all the year; precipitation averages three meters a year or about 50 centimeters less than at Cayenne. The year is divided into two seasons: "summer" from July to December, and the rainy season the rest of the year, with a maximum of precipitation in
133 May and June. The water level varies considerably in the course
182 of the year (several meters). The populations of the interior,
[361] spaced out along the rivers, suit the rhythm of their lives to the
[164] height of the water; the water rules transportation, fishing, and crops; moreover, a certain number of illnesses are in close relation to the rains, in particular those which have an insect for vector.

241 Almost everywhere the soil is very poor in organic matter
[134] and fundamental ingredients, very waterlogged necessitating the practice of an itinerant agriculture on burned-over areas; the period of fallow ground varies from two to ten years, the optimum seem-
[136] ing to be about six. The inhabitants of Guiana cannot allow ground to lie fallow regularly because of the ravages of the manioc ant, /8/ which is active especially in habitually cultivated zones.
[134] Vain and costly efforts made by Europeans notably at Saint-Jean du Maroni about 1950, have shown that the fertility of lands not
[242] burned over is practically nil. The Indians and the Refugee Blacks consider that the fertility of the soil depends exclusively on the weight of cinders laid down during the burning.

When burned-over areas are cultivated, only one harvest is obtained; but this harvest is abundant, and the soil thus utilized can be regarded as relatively fertile. The knocking down and burning do not require great labor, so that primitive agricultural methods
241 can be considered to give a good yield. As a matter of fact, the
179 diverse populations of Guiana, Creoles and Refugee Blacks, have entirely adopted the methods of work resulting from the millennial